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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,335	07/27/2001	Masafumi Sakamoto	212030US2	9250

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EXAMINER

GONZALEZ, JULIO C

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,335

Applicant(s)

SAKAMOTO, MASAFUMI

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25,28 and 33-41 is/are allowed.
- 6) ☒ Claim(s) 11-24,26,27,29-32 and 42-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11 and 12 are rejected under 35 U.S.C. ^{103(a)}~~102(b)~~ as being unpatentable over Asai et al in view of Sakamoto (US 6,051,898).

Asai et al discloses an electric machine having a stator 32 having poles with windings (see figure 15), an outer rotor magnet 3 and the rotor and stator being separated by a gap and an outer rotating body 31 mounted on an side or outer portion of the rotor (see figure 14).

However, Asai et al does not disclose having the stator teeth formed with a forward end.

On the other hand, Sakamoto discloses for the purpose of providing an actuator with small fluctuation even at low speeds, a stator with poles extending outward, windings wound on poles, an outer rotor being in opposite direction to stator while an air gap is in between the rotor and stator (see figure 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an electrical machine as Asai et al and to modify the invention by having teeth on an inner side of a rotor for the purpose of providing an actuator with small fluctuation even at low speeds as disclosed by Sakamoto.

3. Claims 13-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al and Sakamoto as applied to claim 11 above, and further in view of Lamprey (US 4,274,023).

The combined motor system discloses all of the elements above. However, the motor system does not disclose using a reduction gear.

On the other hand, Lamprey discloses for the purpose effectively utilize unusable space in motors, reduction gears 35 connected to an outer body of the motor (see figures 1, 3-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined motor system as disclosed above and to modify then invention by using gears for the purpose effectively utilize unusable space in motors as disclosed by Lamprey.

4. Claims 23, 24, 26, 27 and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al and Sakamoto as applied to claim 11 above, and further in view of Gamble (US 4,763,034).

The combined motor system discloses all of the elements above. However, the motor system does not disclose having stator with poles extending inward and an inner rotor having poles extending outwardly.

On the other hand, Gamble discloses for the purpose of improving the efficiency of electric motors, a permanent magnet rotor 10 having poles extending outwardly and a stator 12 having poles extending inwardly (see figure 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined motor system as disclosed above and to modify then invention by having stator poles extending inwardly for the purpose of improving the efficiency of electric motors as disclosed by Gamble.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al, Sakamoto and Lamprey as applied to claim 14 above, and further in view of Arnaud et al.

The combined motor system discloses all of the elements above. However, the motor system does not disclose having a chopping circuit controlling a voltage.

On the other hand, Arnaud et al discloses for the purpose of making a more efficient and reliable electrical traction system, a chopper D and E which control the voltage of a battery (see figure 2a & column 4, lines 27-31).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined motor system as disclosed above and to modify the invention by using a chopping system for the purpose of making a more efficient and reliable electrical traction system as disclosed by Arnaud et al.

6. Claims 20-22 and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al, Sakamoto, Lamprey and Gamble as applied to claims 14 and 31 above.

The combined motor system discloses all of the elements above. However, the combined machine does not disclose the ranges disclosed by the optimum values.

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to come with those optimum ranges that the applicant may obtain using the formulas, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233.

Also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the optimum value of 90 degrees, since it has been held that discovering the optimum value of result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Allowable Subject Matter

7. Claims 25, 28 and 33-41 are allowed.

Response to Arguments

8. Applicant's arguments with respect to claims 11-44 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened

statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

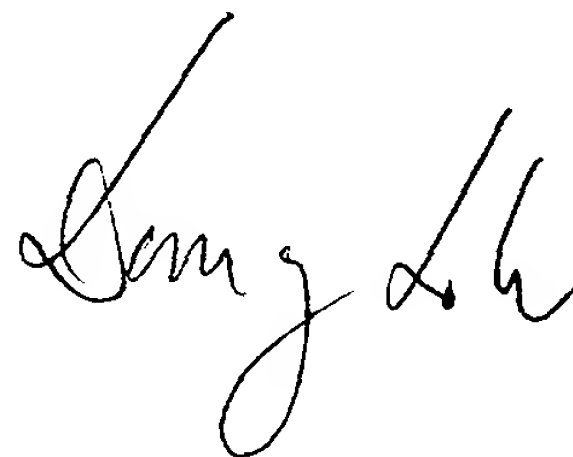
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

September 4, 2003



DANGLE
PRIMARY EXAMINER